DOCUMENT RESUME

ED 323 918 IR 014 541

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TITLE A Model for the Motivational Instruction of Adults.
PUB DATE Feb 90
NOTE 12p.; In: Proceedings of Selected Paper Presentations at the Convention of the Association for Educational Communications and Technology; see IR 014 535.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Education; Continuing Education, *Educational Strategies; Models; *Motivation Techniques; *Needs Assessment; Postsecondary Education; *Student Motivation
IDENTIFIERS *ARCS Model; Course Effort Survey; Course Interest Survey; Keller (John)

ABSTRACT

This study surveyed adults in a wide variety of settings to determine their perceptions of their motivational needs. Subjects were 307 adult participants, mostly K-12 teachers and administrators, who were enrolled in a variety of credit and noncredit continuing education classes and workshops at a major midwestern university. A needs assessment survey instrument, developed through revisions of the Course Interest Survey and the Course Effort Survey to reflect the integration of adult learning and general motivational factors relevant to adult learners, was administered over a 4-month period. Results suggest that: (1) instructional strategies can have a positive effect on the interest and effort of adult learners; (2) instructional motivation has components of instructional appeal and learner effort; and (3) many instructors' motivational methods are perceived to have a stronger positive effect on adult learners' interest than on their effort in learning. Confidence building strategies were found to be much more strongly linked to perceived effort of learners than to instructional appeal. Based upon instructional motivation theory, adult learning theory, and these results, an adult learner/instruction interaction motivation model has been developed to show the interaction of methods, conditions, and outcomes for the motivational instruction of adults. Methods are organized as to the suggested effects on appeal, effort, and satisfaction. (15 references) (GL)

Title:

A Model for the Motivational Instruction of Adults

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A Model for the Motivational Instruction of Adults

This paper provides educators with a model for the instructional motivation of adults. Adult learning theory has been integrated into John Keller's instructional motivation model to develop motivational needs-assessment survey instruments. Results of research eliciting adults' perceptions of their motivational needs were analyzed. Results show that: (a) instructional motivation has components of instructional appeal and learner effort and (b) specific instructional strategies are important for the motivation of adult learners. A model for the instructional motivation of adult learners is presented. This model provides an important step in the integration of adult learning theory into the design of motivational instruction for adult learners.

Introduction

Demographics suggest that during the next several years, the primary growth areas in U. S. education will be in adult and continuing education. By 1992, half of all college students will be over 25 and 25% will be over 35 (Hodgkinson, 1985). In addition, our American culture encourages adults to enroll in schooling. Recently, a group of experts presented a report to President George Bush in which they stated that Americans will increasingly change not just their jobs but their occupations, and will need regular retraining to learn new skills -- a life time of learning (American Agenda, 1988). This need for continuing education is increasingly being addressed by institutions of higher education, business and industry, and community agencies. We need to identify instructional strategies that best facilitate the continuing motivation of adult learners.

The purpose of this paper is to provide educators with a model for the motivating instruction of adult learners. This has been accomplished by linking significant adult learning theory with motivational instructional design; adapting survey needs assessment instruments from Keller and Subhiyah (1987); administering these instruments to adult learners; analyzing the needs-assessment responses; and outlining a model for the instructional motivation of adult learners.

Theoretical Framework

The underlying theory base for instruction of adults comes from two diverse arenas -- adult learning theory, and instructional design for motivation. John Keller (1983) supplies a framework for the design of motivational instruction for learners of all ages. Keller's ARCS model is based upon inductive analyses of the actual teaching practices of highly motivating instructors and deductive analyses of current learning and motivation theories (such as the work of such theorists as Gagne, Bruner, Bandura, Weiner, and Malone). Keller's ARCS model integrates a great amount of what we know about motivating learners, and supplies an organization for theory and practical applications.

Motivational Instructional Design. Instructional motivation attracts learners toward the instruction and increases their effort in relation to the subject (Keller, 1983). This means that instructional motivation has two components, appeal and effort generation. Motivational instruction, therefore, has appeal for the learner and stimulates learner effort.

Keller and Suzuki (1988) and Keller and Kopp (1987) also identify four categories of motivational "conditions" in learning situations: attention, relevance, confidence, and satisfaction. For facilitation of continuing motivation, these four conditions or stages should be addressed. Although these "conditions" (such as expectancy for success) interact with instructional methods to cause learner behaviors or attitudes, the "conditions" cannot be manipulated directly by the instructor. It is, instead, the methods or strategies of instruction that are under the instructor's control which produce various instructional consequences. The instructor, therefore, promotes motivation by using appropriate strategies.

The consequences, which result from the interaction of the methods with the learner's conditions, are termed "outcomes." Keller's model, therefore, is designed to provide effective instructional "methods" under particular "conditions" to yield desirable motivational "outcomes." The model, therefore, contains specific methods or strategies, that are aimed at producing motivational outcomes, when learners are lacking sufficient conditions, such as interest or motives. The initials of these four categories -- attention, relevance, confidence, and satisfaction--give Keller's model the acronym ARCS.

The first requirement for motivating instruction is to gain and maintain the attention of the learner. This can be achieved through several procedures aimed at increasing his/her curiosity or arousal, through humor, paradoxes, inquiry, etc.

Once attention is aroused, the learner evaluates the relevance of the environment before becoming highly motivated. The learner must also perceive that significant personal needs are being met by the instruction. This can be facilitated by matching instruction to learners' goals, using metaphors, cooperative atmosphere, etc.

Confidence is related to the learner's attitude toward success or failure. This attitude influences his/her actual effort and performance. Confidence can be cultivated by clearly indicating the requirements for success, allowing learner control, using learning organizers, etc.

Lastly, individual satisfaction is important for sustaining motivation. Learners must perceive the rewards gained as appropriate and consistent with their expectations. Learner satisfaction can be addressed through providing appropriate recognition for success, giving informative and corrective feedback, supporting intrinsic motivation, etc.

It is expected that the motivational factor of instructional appeal (how interesting and attractive the learner views the instruction) is more closely related to the categories of attention and relevance. The motivational factor of learner effort (the amount of effort a learner decides to give toward learning) is more closely related to the categories of confidence. Learner satisfaction is expected to be related to both interest and effort. These predicted relationships were investigated in this study.

Adult Learning Theory. Literature in adult education cites many strategies which are generalizable across levels of instruction. Authors such as Knowles (1980), Cross (1981), and Zemke and Zemke (1981), however, feel that adult learners have different instructional needs than younger students. These authors suggest strategies they feel to be particularly important for the instructional motivation of adults.

In order for adults to learn, they must be interested in an issue or subject, and it must grab their attention (Knowles, 1980). Adult learners usually are prepared to take responsibility for making choices about their own learning. Each adult student needs to be able to negotiate an individual course of study that is relevant to his or her own needs (Hull, 1981). Adults seek out learning because they have use for the knowledge or skill being taught (Zemke & Zemke, 1981). Learning is a means to an end, not an end in itself.

Adults must feel competent, exhibit confidence during learning, and should feel at ease in the learning environment (Knowles, 1980). Knowles states that confidence is built through self-evaluation, by comparing performance skills before and after the learning experience. This results in the re-diagnosis of learning needs. Further, expectations of the teacher are merged with those of the learner. Tough (1978) explains reasons adults choose their own way of learning by desiring to: (1) set their own learning pace, (2) use their own style of learning, (3) keep the learning flexible and easy to change, and (4) put their own structure on the learning project. Zemke and Zemke (1981) report that when adult learners are asked to risk new behavior in front of peers and cohorts, their self-esteem and ego are on the line. They must feel confident before they can perform in these situations.

According to Manteuffel (1982) satisfied learners are described as involved, challenged, self-directed, rewarded, and safe (i.e., feel comfortable to ask "stupid" questions). Zemke and Zemke (1981) state that an adult seeks to increase or maintain his/her sense of self-esteem and pleasure, which results in a feeling of satisfaction.

It has been suggested that some instructional strategies are more important for adult learners than for younger students. The integration of adult learning theory and the ARCS model provides a framework for a potential adult motivation model. This integration was analyzed through a needs-assessment instrument based upon the literature in both theory bases.

Methodology

This study surveyed adults in a variety of settings to determine their perceptions of their motivational needs. The subjects for the present study were 307 adult participants in Continuing Education at a major midwestern university from a variety of different classes and workshops, both credit and non-credit. While the majority of subjects were teachers and administrators of grades K-12, other occupations were also represented. Involvement in the study was voluntary and the sample included both men and women whose average age was approximately 39 years. Subjects were given a survey instrument during a course or workshop in order to determine their perceptions concerning their generalized personal motivation needs.

Instruments. The needs assessment instruments were developed through a revision of the Course Interest Survey (CIS) by Keller and Subhiyah (1987). Because the CIS was developed to evaluate a specific course, the survey was revised by the authors for better application to general instructional strategies. This was accomplished by a series of refinements from an earlier version of the instrument (Viechnicki, Bohlin, & Milheim, 1989). The statements were reworded in two ways, they were changed: (a) from past tense to present tense and (b) to refer more directly to instructional methods. Two statements that applied specifically to the quality of materials were omitted. Seven statements comprised of strategies suggested by the literature but not included in the CIS were then added. The Likert-type choices were changed from statements about actual instructor use to statements about the general effect of such strategies on either: (1) appeal of the instruction -- Course Interest Survey, Revised (CISR); or (2) effort of the learner -- Course Effort Survey, Revised (CESR). The resulting two instruments are 42-item five point Likert-type scales assessing learners perceptions of the effects of given instructor strategies on their interest and effort in instructional settings (see Table 1).

The Course Interest Survey Revised (CISR) and the Course Effort Survey Revised (CESR), therefore, include items drawn from the integration of adult learning and general motivational factors also relevant to adult learners. The instruments are designed to measure respondents' perceptions of their instructional needs related to instructional appeal (CISR) and learner effort (CESR). Typical demographic questions have also been added to both instruments.

Each of the statements was rated by all subjects on a five-point scale as to the expected effect with the number 5 indicating a very positive effect, and 1 a very negative effect. The test-retest reliabilities of the instruments over a two-week period were found to be .69 (CISR) and .71 (CESR).

Procedure. The administration of the instrument was carried out over a four month period in a number of different classes and workshops. The classes and workshops were selected to give a balanced stratified sampling that reflected a general graduate and continuing education population. After receiving instructions, all subjects worked through the survey form and recorded their answers to each item on a machine-scorable answer sheet. Each administration of this survey required approximately fifteen minutes of class time.

Data analyses were carried out on an IBM 4381 using SPSS-X. In addition to item frequencies across all subjects and subgroups for both surveys, the analyses also included t-tests to determine whether any numerical differences for items and for subscales across the two surveys were significant for this group.

Results

Most of the items were rated by the respondents as having at least a slightly positive effect on their interest and effort (see Tables 2 and 3). The very high ratings of many of the items suggests a possible ceiling effect. The results, however, can be used to analyze certain trends.

Responses differed on the two instruments in several ways. Ratings were higher for interest than for effort on 41 of the 42 items. T-tests showed the ratings on the CISR to be significantly higher ($p < .05$) for 18 of the items, and for all

four subscales.

The 42 items were also ranked by mean response on each instrument (see Table 4). As expected, there were differences in the rankings of many items on the two instruments. Large differences in rankings between the two instruments were defined as those ordinal differences in rankings above the third quartile (ordinal differences of 6 or more for this data). These large differences in the rankings between the instruments were also identified (see Table 4) and analyzed.

Using this criteria, four items in the confidence subscale had large differences in rankings and all four strongly favored perceived effort. This seems to supports the contention that confidence is more closely related to effort than to interest. The relevance and satisfaction subscales each had two items with large differences favoring interest and one item with a large difference favoring effort. The attention subscale showed no large differences in rankings.

Conclusions

These results suggest that instructional strategies can have a positive effect on the interest and effort of adult learners. Differences in the mean responses and in the rankings of the items also support the definition of instructional motivation as including both instructional appeal and learner effort. The results further suggest that many instructor's motivational methods are perceived to have a stronger positive effect on adult learners' interest than on adult learners' effort in learning. It is easier to stimulate arousal and interest than to impact on the effort of adult students. Confidence building strategies were found to be much more strongly linked to perceived effort of learners than to instructional appeal. Attention, relevance and satisfaction promoting strategies were not clearly linked more strongly to interest or to effort.

Based upon instructional motivation theory, adult learning theory, and these results, an adult-learner/instruction interaction motivation model has been developed (see Figure 1). This model, based in part on Keller's (1983) work, shows the suggested interaction of methods, conditions, and outcomes for the motivational instruction of adults. Methods are organized as to the suggested effects on appeal, effort, and satisfaction.

This model is a beginning step in the development of prescriptions for the instructional motivation of adult learners and for the organization of research in adult motivation. Because this study only looked at adult learners in graduate level classes and continuing education workshops, these results may not be generalizable to other adult learners. Further research is, therefore, needed to investigate the perceptions of adult learners in other types of instructional settings. Research to investigate the actual effects (as opposed to perceived effects) of instructional strategies on the interest, effort, and performance of adult learners is also indicated.

The motivation of adult learners was investigated in relation to interest and effort. Research looking at further affective outcomes of these strategies is suggested. Other important outcomes which should be investigated would include learners' attitudes, feelings, values, and emotions.

Research across all age groups is needed to investigate any differences in the instructional motivation needs of learners of different ages. While the literature

suggests that adult learners have different needs than other learners, there appears to be little research to support those contentions. To the extent that this data is generalizable to other adults, this model can be used by designers of instruction for adult learners. Specific strategies can be used during the instructional process to enhance the motivational elements of instruction.

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Table 1

Paraphrased Needs Assessment Items Broken Down by Subscale

Attention	Item 1	Instructor makes me feel enthusiastic about subject
	Item 2	Class captures my attention
	Item 3	Instructor uses humor
	Item 4	Instructor makes me feel curious about subject matter
	Item 5	Instructor does unusual or surprising things
	Item 6	I get a chance to actively participate
	Item 7	Interesting variety of teaching techniques are used
	Item 8	Curiosity is stimulated by questions and problems
Relevance	Item 1	Learning will be useful to me
	Item 2	Instructor makes subject seem important
	Item 3	I can see how content is related to what I already know
	Item 4	I can set and achieve high standards of excellence
	Item 5	Positive role models are presented
	Item 6	Instructor is flexible to meet my needs
	Item 7	Personal benefits are made clear
	Item 8	The challenge level is not too easy or too hard
	Item 9	Amount of work is appropriate
	Item 10	I have input in content and assignments
	Item 11	I get a chance to work with other people
	Item 12	Content relates to my expectations and goals
Confidence	Item 1	Instructor helps me feel confident
	Item 2	Instructor helps feel success isn't linked to luck
	Item 3	Instruction doesn't threaten my self-esteem
	Item 4	Whether or not I succeed is up to me
	Item 5	Instructor creates relaxed atmosphere
	Item 6	Instructor allows for practical applications
	Item 7	Requirements for success are made clear to me
	Item 8	There are frequent opportunities to succeed
	Item 9	Instructor links success to my goals
	Item 10	Instructor helps me feel I can succeed with effort
	Item 11	Instructor models and demonstrates proper skills
	Item 12	The instruction is non-threatening
Satisfaction	Item 1	The class gives me a lot of satisfaction
	Item 2	The recognition I receive is fair compared to others
	Item 3	I will benefit from the knowledge acquired
	Item 4	My instructor's evaluations match my perceptions
	Item 5	I am not disappointed with the course
	Item 6	I get enough recognition from the instructor for my work
	Item 7	I feel satisfied with what I learn
	Item 8	I get enough timely feedback to know my progress
	Item 9	I benefit from this class
	Item 10	Instruction is designed so everyone can succeed

Table 2

Means and Standard Deviations of Responses

to Each Item in Course Interest Survey (CISR) Subscales

	Attention	Relevance	Confidence	Satisfaction
Item 1	4.81 (.40)	4.84 (.40)	4.47 (.62)	4.61 (.58)
Item 2	4.12 (1.08)	4.39 (.64)	4.30 (.92)	4.24 (.80)
Item 3	3.70 (.96)	4.05 (.94)	4.48 (.79)	4.75 (.45)
Item 4	4.47 (.60)	4.55 (.58)	3.87 (1.01)	4.39 (.66)
Item 5	4.21 (.72)	4.10 (.74)	4.43 (.65)	4.32 (.88)
Item 6	4.01 (.84)	4.32 (.69)	4.41 (.71)	4.21 (.72)
Item 7	4.32 (.77)	4.26 (.72)	4.56 (.59)	4.33 (.70)
Item 8	4.51 (.64)	4.17 (.82)	4.38 (.63)	4.59 (.58)
Item 9		4.40 (.68)	3.28 (1.02)	4.52 (.78)
Item 10		4.02 (.81)	4.20 (.76)	3.77 (1.04)
Item 11		3.78 (.86)	4.37 (.69)	
Item 12		4.48 (.62)	4.47 (.73)	

Key: 1 = very negative effect

2 = slightly negative effect

3 = no effect

4 = slightly positive effect

5 = very positive effect

n = 161

Table 3

Means and Standard Deviations of Responses

to Each Item in Course Effort Survey (CESR) Subscales

	Attention	Relevance	Confidence	Satisfaction
Item 1	4.69 (.80)	4.71 (.68)	4.41 (.76)	4.38 (.85)
Item 2	4.08 (.96)	4.10 (.78)	4.19 (.94)	4.08 (.83)
Item 3	3.63 (.89)	3.98 (.93)	4.34 (.87)	4.55 (.68)
Item 4	4.29 (.67)	4.41 (.76)	4.06 (.90)	4.25 (.72)
Item 5	4.02 (.74)	3.84 (.73)	4.22 (.69)	4.18 (.91)
Item 6	3.87 (.83)	4.13 (.74)	4.36 (.76)	3.94 (.70)
Item 7	4.15 (.78)	4.06 (.76)	4.30 (.84)	4.29 (.76)
Item 8	4.36 (.69)	4.12 (.90)	4.13 (.82)	4.27 (.69)
Item 9		4.18 (.75)	3.19 (.92)	4.41 (.83)
Item 10		3.86 (.87)	4.05 (.76)	3.63 (1.00)
Item 11		3.44 (.86)	4.12 (.73)	
Item 12		4.17 (.72)	4.24 (.97)	

Key: 1 = very negative effect

2 = slightly negative effect

3 = no effect

4 = slightly positive effect

5 = very positive effect

n = 126

Table 4

Rankings of Effort and Interest Needs Assessment Items

		Rankings				Rankings	
Category	Item	Effort	Interest	Category	Item	Effort	Interest
Attention	1	2	2	Confidence	1*	4t	12t
	2	28t	33		2*	18	26
	3	39t	42		3	10	10t
	4	12t	12t		4*	30t	38
	5	33	29t		5	17	15
	6	36	37		6*	8t	16
	7	22	23t		7	11	6
	8	8t	9		8	23t	20
					9	42	41
Relevance	1	1	1		10	32	31
	2*	27	18t		11	25t	21
	3	34	35		12	16	12t
	4	4t	7				
	5	38	34	Satisfaction	1	7	4
	6	23t	23t		2	28t	28
	7	30t	27		3	3	3
	8*	25t	32		4	15	18t
	9	19t	17		5	19t	23t
	10	37	36		6*	35	29t
	11	41	39		7*	12t	22
	12*	21	10t		8*	14	5
					9	4t	8
					10	39t	41

t = tied rankings
* = large difference in ranking (above third quartile)